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CRITICAL PERIODS OF DEVELOPMENT: REPORT ON A CONFERENCE

by Francis H. Palmer *

In their respective ways, von Senden, Lorenz, Spitz, and Piaget have observed phenomena which suggest that there may be critical periods in the development of the child—points or stages during which the organism is maximally receptive to specific stimuli.¹ Such stages may exist in the development of fundamental sensory processes, such as conceptions about size, shape, and distance, and in the development of social behavior as well. The critical periods hypothesis asserts that these stages are of limited duration: there may be a finite period during which certain experiences must occur if they are to become part of the organism's repertoire of responses; or there may be a period of increased efficiency for the acquisition of experience, before which it cannot be assimilated and after which the level of receptivity remains constant. The identification of those aspects of behavior for which critical periods exist, and an understanding of the processes involved could have tremendous implications for research on child development.

On January 6–7, 1961, the Council sponsored a small conference at which four comparative psychologists and eight child psychologists discussed data from animal

experiments which might bear on the concept of critical periods, and examined the implications of these data for child research. Austin H. Riesen and Eckhard H. Hess of the University of Chicago, William A. Mason of the Yerkes Laboratory of Primate Biology, and Harry F. Harlow of the University of Wisconsin presented their most recent research relevant to the topic.² Riesen reviewed his work on the effects of early visual deprivation on subsequent behavior and identified some of the biochemical and neurophysiological correlates of retarded performance resulting from such deprivation. Hess discussed imprinting and the importance of specific time spans in that phenomenon. Mason and Harlow discussed social and sexual development in primates and the emergence of affectional responses. The studies cited below are illustrative, not exhaustive, of those considered at the conference.

SENSORY PROCESSES

Riesen emphasized that biologists have long held that continuing sensory stimulation is a necessary feature of an organism's development. Later function depends on earlier function. The question to be answered is: "How much and in what manner are neural and behavioral development dependent on general or specific constellations of sensory activation?" Riesen cited several of his studies that bear on that question.

* This article is based in large part on summaries of the reports presented at the conference by Austin H. Riesen, William A. Mason, and Eckhard H. Hess; the summaries were prepared by Dorothy H. Eichorn, Lewis P. Lipsitt, and William Kessen, respectively.

¹ M. von Senden, *Space and Sight: The Perception of Space and Shape in the Congenitally Blind before and after Operation* (Raum- und Gestaltauffassung bei Operierten Blindgeborenen, 1932), trans. by Peter Heath (Glencoe: Free Press, 1960); Konrad Lorenz, *King Solomon's Ring: New Light on Animal Ways*, trans. by Marjorie Kerr Wilson (New York: Thomas Y. Crowell Company, 1952); René A. Spitz, "Anaclitic Depression," *Psychoanalytic Study of the Child*, 2:313–342 (1946); Jean Piaget, *The Construction of Reality in the Child* (London: Routledge & Kegan Paul, 1955).

² The conference was held in Chicago. The participants, in addition to the four speakers and the writer, were Dorothy H. Eichorn, University of California, Berkeley; Jerome Kagan, Fels Research Institute; William Kessen, Yale University; Lewis P. Lipsitt, Brown University; Harriet L. Rheingold, National Institute of Mental Health; Robert R. Sears, Stanford University; Charles C. Spiker, State University of Iowa; and Harold W. Stevenson, University of Minnesota.

To test the effects of early visual deprivation on subsequent perception of movement (movement discrimination), in one study four groups of cats were exposed respectively to the following conditions: (1) the normal laboratory environment; (2) diffuse light one hour per day; (3) the normal laboratory environment, but prevented from movement by the use of a harness; (4) one hour per day of free-moving light. The subjects in groups 2 and 4 were reared in darkness until they were eight weeks of age. Subsequently they were tested for their ability to discriminate between a stationary X and a rotating X, which were located on two windows that had to be pushed to obtain a reward of horsemeat. It was found that neither the form-deprived group (2) nor the restricted-motor group (3) could discriminate between the rotating X and the stationary X; the two control groups could.

In a second study in which the identical conditions of rearing described above were used, cats were subjected to three problems in discrimination learning: discrimination of light and dark (intensity); discrimination of horizontal versus vertical stripes (redundant forms); and discrimination of a stationary black dot versus a black dot bouncing up and down at one-second cycles (movement). There were no differences in the performance of the four groups in discrimination of intensity, and only slight differences between control and experimental groups in discrimination of redundant forms; but the control groups learned the discrimination of movement in 450-900 trials, which animals raised under conditions 2 and 3 had not learned after 2,000 trials. It was concluded that the discrimination of intensity is not affected by patterned light or by the restricted-motor condition, and that the discrimination of redundant forms is but little affected by those conditions. The data clearly show a decrement in the discrimination of movement in both studies.

In other studies animals that had been exposed to five months of darkness after five months of normal rearing performed normally in discrimination of movement, indicating that the critical period for visual experience with respect to subsequent discrimination of movement is during the first five months. Riesen also demonstrated that animals without a background of visual experience do not show fear responses to visual stimuli of strange objects, as do normal animals, and that animals reared in dark or diffuse light remain monocular for several months following exposure to normal visual experience. Eye coordination is highly dependent on early visual experience. From these and other data presented by Riesen it is clear that visual pattern stimulation is necessary at an early age if cats and monkeys, at least, are to respond normally to movement.

The discussion that followed Riesen's presentation suggested that critical periods during which sensory stimulation is necessary for adequate development become less fixed as the phylogenetic scale is ascended. Considerable attention was paid to the lack of emotional responses on the part of visually deprived animals to ordinarily alarming visual experiences. This lack was related to the observation that many institutionalized infants appear not to show fear of strange objects or persons. Furthermore, the response of young rhesus monkeys and chimpanzees to strange objects is not as marked as is that of older animals. Abundant visual experience may be a prerequisite to responding to visual objects with fear.

If, as has been indicated, there is an orderly array of sensory experiences necessary for normal development, the organism must be neurophysiologically and biochemically ready to receive such stimulation. Riesen concluded his paper by citing studies that showed neurophysiological and biochemical correlates underlying the effects of early sensory experience. He emphasized the importance of studies of this kind for throwing light on the relation between the state of the organism and the timing of a critical period.

IMPRINTING

The report given by Hess was concerned mainly with the phenomenon of imprinting and the critical period for imprinting in the precocial birds; he broadened his commentary to include lower mammals and man.

The important observations about imprinting are: (1) An animal is attached to a "parent object," even though this may not be the biological parent or even a member of the same species. Indeed, it appears that attachment to inanimate objects may develop almost as readily as to other animals. (2) Even after separation of some duration from the imprinted object, the animal will continue to show tracking and other behavior toward the object.

Hess emphasized the short period during which an animal can be imprinted in this way, and the irreversibility of the phenomenon. Baby chicks, for example, show a maximum receptivity to imprinting at 16 hours; by 32 hours the period during which imprinting can occur has apparently ended, and there is no evidence that the phenomenon can be repeated during the remainder of the chick's life. Chicks reared in isolation and deprived of an opportunity for imprinting a parent object differ from those that have been imprinted, and idiosyncratically so. In spite of apparently identical conditions of early isolation, deprived animals have been observed to exhibit such diverse patterns of behavior as apathy, aggression and attack, or fear and flight. Hess

found such diverse responses perplexing and stated that only by further investigation could data be obtained to explain such differences. One question raised by the participants in the conference dealt with the genetic make-up of the animals studied, namely, chicks obtained from a commercial breeding establishment.

The lastingness of imprinting has been demonstrated by Hess in a study of cichlid fishes, which make good subjects because of their relatively advanced central nervous structure and because they tend to care for their young. (Most fish let their young swim for themselves, so to speak.) Young of one species were hatched in a tank containing adults of another species, and remained there until three weeks old. Then the young were separated from the imprinted parent fish and maintained in individual tanks for 15 months. When released into a central tank after this period of separation, the young fish swam to the end of the tank where the foster parents were glassed off but visible, rather than to the end where the natural parents were similarly available. Control fish, reared with their own parents, swam directly to their own species after a similar 15-month separation.

Hess next considered factors which might be related to the time span for optimal imprinting. There are differences both across species and within species with respect to the number of hours after birth when imprinting begins, reaches maximum efficiency, and decays. If age were measured from incubation rather than from hatching, might differences across species be shown to be more stable, and differences within species less great, inasmuch as hatching is at least partly a function of the random activity of the chick? To what extent is experience after hatching a determinant of the onset of imprintability?³ Or is the onset prescribed by physiological processes independent of external stimulation? And what determines the end of the period during which imprinting may occur? Reference was made to studies which suggest that as the organism learns to respond with "fear," imprintability decays. There was detailed discussion of these questions before the attention of the conference was directed to how knowledge about imprinting in animals might contribute to research on child development.

Hess pointed out that generalization from research on certain animals to research on other animals or on people is an intricate matter. It is sometimes difficult to generalize from members of one phylogenetic family to another or even between breeds of the same species. The advantages of comparative study in interspecies

generalization seem to be, first, that the study of one species may permit clearer formulation of empirical and theoretical questions for study of another; second, that the development of techniques and methods applicable in comparative studies of animals and men may be facilitated, at least in the first instance, by work with animals. Hess went on to describe briefly and to show films of a research project, conducted with Jere Wilson, on the permanence of the smiling response of human infants stimulated by the presentation of human portraits with feeding; the response is a function of the age at which the portrait is first presented to the infant.

SOCIAL AND SEXUAL BEHAVIOR

Mason first described characteristics that are shared by man and the other primates: Striking similarities exist with respect to physical growth and organic functions. Each possesses a wide range, variability, and flexibility of behavior, gregariousness, and relative developmental retardation. It is therefore likely that comparative study of the primates will reveal similar psychological processes.

Of the similarities characteristic of the primate family, perhaps the most important for developmental research is the period of retardation during which primates exhibit high familial dependency. It is during this period, Mason suggested, that there probably are truly critical periods for development, particularly with respect to socialization processes. Unlike man and some of the lower animals, for whom maternal deprivation often appears to be inconsistent with physical well-being, chimpanzees and monkeys show normal physical development as long as they have warmth and nurture—even when isolated. However, in the rhesus monkey, at least, normal socialization is interrupted by isolation.

What are the effects of early social restriction on the behavior of adolescent monkeys? Six socially restricted monkeys were compared at adolescence (about 2.5 monkey years) with a like group of feral (wild-born) monkeys which had not been subjected to isolation. Spontaneous social behavior was observed in various matchings of the animals with one another. The social isolates were more aggressive and seldom participated in social grooming. Sexual responses of the restricted monkeys were inefficient, unintegrated, abortive, and disorganized. When given a choice of females, they could not choose. Feral animals chose partners readily and tended not to change partners. When placed in situations where a choice between social or nonsocial behavior was possible, the results indicated that the laboratory-reared monkeys were indifferent to one another and to social contact. In competitive situations the feral group quickly estab-

³ Since the conference Howard Moltz of Brooklyn College has shown that the period during which imprinting can occur can be delayed significantly, provided that the animal is deprived of visual pattern experience from birth.

lished stable dominance relationships, whereas the restricted animals showed shifting and unstable dominance relationships.

When subjected to the stress of exposure to unfamiliar environments, crouching, self-clasping, rocking, and other inwardly directed behavior were characteristic of the isolates well after the one-year-old period, when such behavior was put aside by mother-reared animals in favor of exploratory activity and elaborate gymnastics. Mason termed this first year a "true critical period" and drew analogies to findings for institutionalized children.

Little difference between the behavior of feral and isolated animals was observed when they were introduced individually to a rat as a cage partner, but after a period of living with the rat the feral monkeys showed more behavior suggestive of attention to and nurturing of the rat than did the isolates. Rats paired with monkeys that had been raised in isolation had a higher mortality rate, in spite of the fact that the feral monkeys mauled their partners more.

The ensuing discussion by participants in the conference dealt with methodological problems in studying the influence of a specific experience on subsequent behavior. Two animals—or children—exposed to the same stimulus probably will not respond in the same way because the sum of their experiences previous to the stimulus differ, as do experiences intervening between the observed stimulus and measurement of the desired response. This old dilemma in research is particularly troublesome in studies of the effects of deprivation, for the behavioral changes of greatest interest are those that are shown to be stable over time, and the greater the lapse of time, the greater the opportunity for different intervening experience. Mason suggested that much parametric investigation is needed, on different ages at which deprivation occurs, the duration of deprivation, the generality of effects of deprivation, and the reversibility of the apparent disorders developed.

To test the hypothesis that social experience is necessary for the development of "adequate" social responses, Mason studied 12 one-year-old normal laboratory monkeys, housing six of them in pairs, the other six as isolates. The paired monkeys exhibited less crouching, thumb-sucking, and clasping behavior; their most frequent activity was play-wrestling. The paired monkeys fought less frequently than did the isolates when the latter were put together at 2.5 years of age. In an experimental situation requiring some form of communication between partners in obtaining food, the paired monkeys learned more easily to produce this communication. According to Mason, "It is apparent that complete development of fundamental social response patterns does not occur in the absence of social experience."

Mason concluded that considerable evidence indicates that the first year of life is a most crucial period for socialization in the monkey's experience.

Harlow, blessed with over 100 neurotic monkeys—raised "not through genius, but by patient misadventure"—ranging in age from two to six years, had a good deal to report about certain aspects of the social development of monkeys, particularly the development of affectional systems and sex. The reader may recall that in Harlow's earlier studies infant monkeys were reared with (a) wire mother surrogates (hard, cold, and unresponding), or (b) terry cloth and foam rubber mother surrogates (soft, warm, and unresponding); and that subsequent exposure to a stressful stimulus (toy drummer, colorful, active, and noisy) left the wire-mother-reared monkeys highly fearful, disorganized, and even catatonic, whereas those reared with foam rubber surrogates were relatively composed, curious, and organized.⁴

At the conference Harlow stated the assumption that learning is better before love than after, and cited studies supporting this position. Monkeys raised with cloth mother surrogates seem to suffer no decrement of physical growth or of performance of a variety of tasks, in comparison with mother-reared monkeys, but are inferior in some social and sexual behavior. Surrogate-reared monkeys exhibited retarded play behavior, as did Mason's monkey isolates, were less curious about the objects and conditions provided in a strange cage, and much more frequently exhibited self-clasping, rocking, and other inwardly oriented behavior. According to Harlow, "There is little doubt that contact comfort and clinging are the variables of primary importance to infant-mother affection in monkeys, but that nursing, temperature, vision, and audition are supplemental variables producing and maintaining the affection of the infant for the mother."

"Surrogate-reared monkeys present a picture of patient apathy, or engage in bizarre, individual, stereotyped responses, or exhibit intrapunitive behaviors of biting and aggression directed toward themselves." Harlow was not surprised that monkeys reared with wire mothers, isolated from peers, found it difficult later to develop normal social and sexual companionship with peers, but was surprised that monkeys reared with "ever-loving cloth surrogates, for whom they had shown unrequited affection," failed to develop normal affectional relationships with other monkeys when given the opportunity. They cannot, it seems, succeed in transferring affection for cloth mother surrogates to real monkeys.

⁴ These studies have received considerable attention in the public press since Harlow's address as President of the American Psychological Association, August 31, 1958 ("The Nature of Love," *American Psychologist*, December 1958, pp. 673-685).

While in Harlow's laboratory, Mason found that the most striking difference between mother- and surrogate-reared monkeys was the completely ineffectual sex behavior of males in the latter group. He found, also, that females reared with mother surrogates rarely became pregnant.

The period during which an infant monkey can be exposed to a cloth mother surrogate and still develop affectional relationships to it appears to be relatively unfixed. However, once an infant has been exposed to a real mother monkey, it is difficult for the infant to develop affectional attachment to the cloth surrogate.

The second affectional system (the first is the relationship between infant and mother) was described as the relationship of infant to infant, which involves the development of social behavior between infants. To develop normal relationships with another infant, the baby monkey requires certain mother-oriented experiences prior to exposure to the other infant. A direct measure of the differences between the social contacts of mother-reared and surrogate-reared monkeys was obtained by housing four of each in identical play-pen situations. The apparatus consisted of a central play area subdivided into four play-pen units, each of which abutted a living cage. Passages between the living cage and play pen were of a size to allow traverse by the infant but not by the mother. From 16 days of age on, interaction between infant pairs was permitted for two hours daily. Detailed observations were made and records were kept of responses to toys, food platforms, and manipulative devices introduced for experimental purposes.

Both groups—mother-reared and surrogate-reared—spent equivalent time in the play-pen situation, thereby allowing equal opportunity for interaction with a partner. The surrogate-reared monkeys showed a larger amount of and greater persistence in orality (e.g., biting, licking) toward other monkeys and toward themselves. When the infants began to leave their mothers spontaneously, the babies reared by their real mothers were differentiated from the surrogate-reared by earlier and more frequent social responses to other infants. As the infants matured, the superiority of the mother-reared infants became even more evident in their readiness for and frequency of rough-and-tumble play. At the stage when integrated play is normal for monkeys, the difference between the two groups was even greater: the mother-reared monkeys participated in activities with a partner more frequently and in more complex activities.

Thus Harlow showed that the first affectional system between infant and mother is a necessary antecedent for normal development of the second, between infants, even though the time at which the first must occur may not be precise. Critical period, critical stage, or critical

antecedent experience must occur before the other is possible.

SUMMARY OF DISCUSSIONS

BY THE CONFERENCE

The data presented in the four reports clearly demonstrate the existence of critical periods of development in infra-human animals. There are antecedent experiences and functions that must occur early in the development of an organism if it is subsequently to perform certain more complex behaviors. The animal investigator has contributed enormously to our understanding of the developmental process, particularly with respect to methodology and hypotheses which can be derived for human behavior. He can be expected to continue to identify behaviors for which necessary antecedents exist, and to determine those periods during which the earlier experiences must occur.

That there are differences among species is apparent. Research on species as yet unstudied will aid us in determining the extent to which generalizations can be made from one species to another. The suggestion that critical periods may become less fixed in time as the subjects studied ascend the phylogenetic scale should make the child psychologist cautious about prematurely applying concepts such as imprinting to human behavior.

The notion that there may be optimally efficient sequences of experience which maximize the rate and amount of learning of specific behaviors is challenging, and further comparative research should contribute to setting more precise parameters for such processes.

The fact that stimulation is a necessary continuing factor in development poses complex problems in research design. The ingenious techniques developed by animal investigators are as exciting as the hypotheses about human behavior that come from their work, but it is not at all clear how methods involving deprivation and isolation can be used in child research. One cannot raise human infants in isolation nor with wire mother surrogates. Ethical and methodological problems are serious obstacles for much of the experimentation that would be required in comparative research on human beings.

One approach to learning more about critical periods in the development of children is through longitudinal study of large samples. Conditions of deprivation sometimes occur naturally, and studies of these would give observers opportunity to relate such occurrences to subsequent behavior. The design of such studies is difficult, and the results must be interpreted without high levels of confidence; but observation, for example, of preschool affectional behavior in a large number of chil-

dren and any resulting inferences about relationships to adult dependency could be significant.

In the 1930's child psychology and comparative psychology were strongly allied and shared interests in biological and behavioral processes. Because everything was shown to be correlated with age, the tendency has been to make it a central variable in research. But change in behavior as a function of increasing age does not reveal the mechanisms of process nor the underlying functional relationships. Both comparative and child psychologists have become preoccupied with the convenient measure offered by age, and to some extent it has served to de-emphasize the study of processes in favor of mere comparisons.

Several of the reports at the conference mentioned the high degree of behavioral stereotypy in infra-human animals in comparison with man. The question whether this comparison was meaningful or useful was raised. Man's stereotypy may be of a different kind from that observed in rhesus monkeys or chimpanzees, and his intelligence also may be different. Man may be the most intelligent of the primates, by some criteria, but there are certainly behaviors that the rhesus performs "better." One great value of comparative studies for the understanding of human behavior is that some processes are revealed more clearly in primates than is possible, for practical or social reasons, in studies of humans.

Participants in the conference were in complete agree-

ment about the need for further efforts to increase communication between comparative and child psychologists, but thought that to focus such efforts on the notion of critical periods of development, in spite of its importance and interest, would be too restrictive. There are many other areas of research in which exchange of information or plans would help both groups, for example, sex differences in behavior across species, similarities in learning and higher processes across species, developmental rates, play and social behavior, continuities and discontinuities across species. The animal investigator has helped to sharpen the goals of child research. Concerning the question whether there are critical periods of development in the child, he has furnished clues to what might be investigated and how. He has demonstrated that such periods exist for a wide range of phenomena, from the development of sensory processes to social and sexual behavior. He has raised many questions about development which must be answered by child investigators. To facilitate further communication between these two groups and to advance research on areas of mutual interest to them the Council's Committee on Problems and Policy on January 27 appointed a new Committee on Comparative Developmental Behavior, consisting of Harold W. Stevenson (chairman), Harry F. Harlow, Eckhard H. Hess, Harriet L. Rheingold, and Robert R. Sears. The first meeting of the committee will be held in the fall.

THE COMPARATIVE ROLES OF GROUPS IN POLITICAL SYSTEMS

by Joseph LaPalombara

THE Council's Committee on Comparative Politics¹ held a conference at Gould House, Dobbs Ferry, N. Y. on September 12-16, 1960 to enable recipients of grants under its two-year program (1957-59) of support for field studies of political groups in foreign areas to compare their research findings and experiences. It was thought that such a meeting would be particularly helpful to those who were analyzing their data and preparing reports for publication.² The conference also sought to

appraise the utility of the focus on interest groups and of functional theory in research on foreign political systems.

RELATION OF INTEREST GROUPS TO POLITICAL CULTURES

The participants in the conference included scholars concerned with the role of interest groups in political systems in the West as well as scholars who are dealing with these phenomena in non-Western, less developed

¹ The members of the committee are Gabriel A. Almond, Yale University (chairman); R. Taylor Cole, Duke University; James S. Coleman, University of California, Los Angeles; Herbert H. Hyman, Columbia University; Joseph LaPalombara, Michigan State University; Sigmund Neumann, Wesleyan University; Lucian W. Pye, Massachusetts Institute of Technology; Robert E. Ward, University of Michigan; staff, Bryce Wood.

² In addition to the members of the committee and staff, the participants were Leonard Binder, University of California, Los Angeles; George I. Blanksten, Northwestern University; Frank R. Brandenburg, Escuela Nacional de Ciencias Políticas y Sociales, México, D.F.; Henry

W. Ehrmann, University of Colorado; S. N. Eisenstadt, Hebrew University, Jerusalem; Leonard J. Fein, Michigan State University; Frederick W. Frey, Princeton University; Federico G. Gil, University of North Carolina; Pendleton Herring, Social Science Research Council; Val R. Lorwin, University of Oregon; William W. Marvel, Carnegie Corporation of New York; Fred W. Riggs, Indiana University; Dankwart A. Rustow, Columbia University; Robert E. Scott, University of Illinois; Stanley Spector, Washington University; P. J. Vatikiotis, Indiana University; Myron Weiner, University of Chicago.

areas. Consequently the first session was devoted to discussion of the relation of interest groups to political cultures. It was noted that there are political cultures in which interest groups in the sense of secondary, formal associations, such as are characteristic of the West, have not fully emerged. In studying these cultures one must be aware that the articulation and aggregation of interests are functions often performed by tribal, village, and other "communal" groups; that in these circumstances the structure of influence differs considerably from that in the West; and that the consequences for government and politics are important and should be delineated.

There was general agreement that special attention might fruitfully be given not merely to the manner in which interest groups evolve in transitional societies but also to the ways in which their members are acculturated to the new roles—for example, of politician and bureaucrat—that accompany changes in the political system. Analysis of these developments, however, should not be based on the assumption that the antipathy between bureaucrat and politician that is often observed in transitional societies is peculiar to these social systems. Similar patterns are detectable even in the most highly developed Western societies. This similarity is one of many indicators suggested by participants to illustrate that all societies are essentially "dual" in nature, and that determining the *respects* in which any society, or its political system, is modern or traditional is a central problem in analysis.

There was some objection to use of the term "transitional" to describe a society undergoing change, for the term may imply a social Darwinian model of political development. This model would suggest that change is inevitable, that it proceeds in clearly identifiable stages, that subsequent evolutionary stages are necessarily more complex than those that preceded them, and that later stages are "better" than their antecedents. In order to avoid these pitfalls, one might more logically speak of "amalgamate" than of transitional societies. One might also recognize explicitly that change is not inevitable, that some systems can remain at a given stage for extremely long periods, and that when change does occur it may represent regression rather than a step forward.

Unpersuasive are theories of change that are deterministic and that identify a particular factor, such as a program of economic development, as responsible for modifications in the political system. Scholars who implicitly or explicitly accept this view also tend to assume that political systems are evolving toward the Anglo-American model; they identify political modernity with the configuration of political institutions and behavior that one associates with Great Britain or the United States.

The cultural bias in such theorizing is obvious. That there may be a number of paths to political modernity and that varying structural arrangements may comprise a "modern" political system must of course be accepted. Similarly, there is no reason for accepting the view that any single variable, economic or other, is what accounts for political change. Economists themselves have sometimes assumed that a particular combination of social and political conditions must precede economic development. It therefore seems more realistic and promising to posit more complex and open models of political change, and to seek to identify the ways in which several variables affecting change or development are related.

INTEREST GROUPS, POLITICAL PARTIES, AND THE BUREAUCRACY

Relationships between groups, on the one hand, and political parties and the bureaucracy, on the other, are also important and were discussed at length by the conference. It was apparent that differences between developed and less developed societies or political systems, in respect to such relationships, are not as great as is frequently imagined. For example, it is not clear that political parties in the more highly developed systems tend to integrate group interests more than is the case in less developed systems. However, it was recognized that as political parties become less ideological in orientation, they tend to decrease in number and, in addition, to lose some of their functions of articulation of interests to organized interest groups.

Field research experiences reported by participants in the conference did demonstrate, nevertheless, that interest group phenomena do differ in certain respects, depending on the nature of the society or political system. There are identifiable differences in patterns of access of groups to government, in the degree to which groups recruit their potential memberships, in the degree of specificity of group goals and of ideological cohesiveness, in the extent to which groups exist to be exploited as instruments of government rather than to function as articulators of interest, and so on. Differences were noted in the importance of *institutional* groups—army, church, bureaucracy—in the process of formulation of political policy. Several scholars contended that such groups in transitional (or amalgamate) societies often perform activities that are performed by formal secondary associations in other systems. Both primary and institutional groups were said to overshadow the latter in importance in traditionally dominant transitional societies. Because of differences in the viewpoints represented it was agreed that more information was necessary before firm conclusions could be

drawn. It was proposed, as one approach, that simple hypotheses regarding the relations between groups and political parties or other formal institutions of the political system might be tested against the experiences of field investigators. The results might indicate ways in which changes in the organization and behavior of interest groups influence other political institutions.

A similar procedure may be followed in study of the relations between interest groups and the bureaucracy. It is evident, for reasons that differ from one society to another, that the policy-making (as distinguished from the instrumental) role of bureaucracy has increased considerably in recent years. Where this occurs, interest groups naturally tend to concentrate their activities in the bureaucratic sphere, rather than the legislative. It is extremely important to understand what consequences for the political system flow from heavy intervention in the bureaucratic process on the part of primary or secondary groups.

However, it is probably hazardous to assume that the contacts of interest groups with the bureaucracy in non-Western political systems will be less formal and more particularistic than in the West. In Western countries formal, even corporative, group interaction with the bureaucracy may or may not be crucial. Informal, particularistic patterns may be just as important in Western societies as in non-Western; and in both kinds of societies the bureaucracy may be deeply involved not merely in performance of political "output functions," but as a strong group making demands on the system or contributing to performance of the "input function" of interest articulation.³ Sufficient evidence was presented at the conference to emphasize the many similarities that characterize bureaucracies in Western and non-Western countries. Further testing of hypotheses against experiences in the field will probably help to indicate in greater and more satisfying detail how these countries can be differentiated on the basis of group relationships to the bureaucracy.

ADVANTAGES AND DISADVANTAGES OF THE FOCUS ON GROUPS

In general, the participants agreed that the committee's emphasis on comparative studies of political interest groups had much to recommend it. The focus on groups

³ In the first volume sponsored by the Committee on Comparative Politics, *The Politics of the Developing Areas*, edited by Messrs. Almond and Coleman (Princeton University Press, 1960), the following categories of functions of all political processes are used: A. *Input functions*: (1) political socialization and recruitment, (2) interest articulation, (3) interest aggregation, (4) political communication; B. *Output functions*: (5) role making, (6) rule application, (7) rule adjudication. Cf. Lucian W. Pye, "Political Modernization and Research on the Process of Political Socialization," *Items*, September 1959, p. 26.

leads the scholar to look at important political phenomena that might elude one whose approach to research on political systems was too formalistic. Also, analysis of such groups may help one to ascertain the political implications of economic development in transitional societies, or the economic implications of their political development. Equally important, the focus on interest groups tends to force the scholar to view the political process in dynamic terms, to see policy as the resultant of a complex network of human interactions that extend considerably beyond the formal governmental framework.

Some caveats about the focus on groups were noted, however, despite agreement on its general utility. This approach was developed in the study of societies on which substantial information was available. This stimulated a desire to go further—to probe below the surface of political phenomena. But in the less developed systems institutional data are extremely scarce, and must be gathered before the roles of groups—primary, secondary, or institutional—can be adequately examined or understood. There is also danger that the focus on interest groups may become a conceptual strait jacket if one seeks to define the political process as essentially one of group conflict or competition—that is, if one tries to reduce all political behavior to a supposed parallelogram of group force exerted on the political system. Such an approach explains only with great difficulty, and questionable logic, societies in which groups are essentially instrumental for government, or societies in which the larger and better-organized the group, the more likely it is to become the servant of governmental officials or political leaders.

The conference was reminded that the program of grants for research on political groups in foreign areas reflected the committee's desire to discourage superficiality and formalism in comparative political studies. A new danger of formalism may arise, however, from a rigid focus on formal associational groups. Such a narrow focus was not intended; it was expected that, as the grantees' reports now illustrate, scholars would be concerned as well with the political roles of primary and institutional groups.

A FUNCTIONAL APPROACH

In order to assure research foci that are not tied to a particular cultural experience, members of the committee, as well as some of the grantees, have experimented with a functional approach to research on political processes. Such an approach requires searching for the ways in which particular functions—such as the articulation and aggregation of interests—are performed,

without any predetermined conclusions concerning the structures or institutions that are involved in performance of the functions in any given political system. On the whole, the conference participants were inclined to favor the functional approach. It clearly is of considerable value for gathering data in terms of systematic categories. It compels the investigator, even when examining a single function, to think in terms of the whole political system, and to attempt to see the interrelationships among all its structural characteristics. Also, it appears to be a very promising framework within which to make necessary comparisons among a wide range of seemingly disparate political systems.

There is some question as to whether the functional approach is genuinely dynamic—whether it will facilitate analysis of political development and change. Since political development has been selected as the focus of the next stage in the committee's program, this question is of considerable interest and importance. Several participants stressed the view that the functional approach

can do more than wrench scholars away from old ways of looking at politics: that functional theory can do more than provide new and valuable insights into the structure of political systems. Precisely because functional theory purports to deal with whole systems, it may lead us to understand the dynamics of change within these systems. In searching for a theory that encompasses the phenomena observable in a wide variety of political systems, we have been continuing, or returning to, the classic tradition of political science. This is one important value of functionalism. Even with its limitations, and some of them will require careful attention, the functional approach may contain more of a developmental theory than is generally recognized.

This conference brought to a close the first phase of the work of the Committee on Comparative Politics, which is now planning a series of seminars to be held during the coming three years, on the broad subject of political development and modernization in relation to the economic growth of underdeveloped countries.

COMMITTEE BRIEFS

AGRICULTURAL ECONOMICS

Herman M. Southworth (chairman), Kenneth L. Bachman, Charles E. Bishop, George K. Brinegar, Robert L. Clodius, Willard Cochrane, Marc Nerlove, Vernon W. Ruttan, Harry C. Trelogan.

The third of the research papers prepared for the committee, "Market Structure as an Orientation for Research in Agricultural Economics," by Mr. Clodius and Willard F. Mueller of the University of Wisconsin, will be published in an early issue of the *Journal of Farm Economics*. At a meeting on May 12-13 the committee reviewed drafts of several additional papers which it is hoped will be published in journals. Included were papers on agricultural and industrial relationships by Karl A. Fox, Iowa State University, and Rex F. Daly, U. S. Department of Agriculture; on the productivity and social costs of human, social, and community capital by Lee R. Martin, University of Arkansas; on impacts of state and local government on agriculture by J. K. McDermott of Purdue University; and on individual farm organization in relation to urban areas by Mr. Brinegar. The committee also reviewed the outcome of a conference of economists and librarians held under its sponsorship in Washington on March 30 to consider the cataloging and retrieval problems relating to agricultural economics materials, particularly the large volume of non-periodical bulletins and other special research documents. Plans formulated by the conference for a detailed re-examination of subject headings pertinent to agricultural economics were approved by the committee in the hope that funds for this purpose can be obtained by the American Farm Economic Association.

CONTEMPORARY CHINA

(Joint with American Council of Learned Societies)

George E. Taylor (chairman), John M. H. Lindbeck (secretary), Zbigniew Brzezinski, Alexander Eckstein, John K. Fairbank, Walter Galenson, Norton S. Ginsburg, A. M. Halpern, C. Martin Wilbur, Hellmut Wilhelm; staff, Bryce Wood.

The libraries participating in the arrangements made at the initiative of the committee for distribution, through annual subscription, of translations of social science materials relating to China produced by the United States Joint Publications Research Service now number 48. As a first step toward maintaining a guide to the JPRS reports on China, the committee engaged Richard Sorich of Columbia University to prepare a list of these reports for the period 1957-60, together with a subject index. This assignment was completed in May, with reproduction of "Contemporary China: A Bibliography of Reports on China Published by the United States Joint Publications Research Service," edited by Mr. Sorich. Complimentary copies of this document of 100 pages have been distributed to scholars concerned with research on contemporary China, to libraries, and to other organizations. A limited supply of additional copies is available. Libraries and individuals who would find this bibliography useful for research purposes should address their requests to the Social Science Research Council.

The committee hopes that it will be possible both to continue the arrangement for distribution of JPRS reports in 1961-62 to a maximum of 60 participating libraries, and to bring the bibliography of the reports up to date.

INTELLECTIVE PROCESSES RESEARCH

Roger Brown (chairman), Jerome Kagan, William Kessen, Lloyd N. Morrisett, Paul H. Mussen, A. Kimball Romney, Harold W. Stevenson; *staff*, Francis H. Palmer.

The committee's second major conference, on Basic Cognitive Processes in Children, was held at the Calhoun Beach Hotel, Minneapolis, on April 21-23. Messrs. Kagan and Stevenson organized the conference. The following papers were prepared in advance and discussed, as indicated: "Russian Research in the Cognitive Processes," by Daniel Berlyne of Boston University and Harold Pick of the University of Wisconsin; "The Development of Mediating Responses in Children," by Tracy S. Kendler of Barnard College, discussed by Mr. Morrisett; "The Development of Perception: Discrimination of Depth Compared with Discrimination of Graphic Symbols," by Eleanor J. Gibson of Cornell University, discussed by Herman A. Witkin of the State University of New York, College of Medicine, Brooklyn; "Verbal Factors in the Discrimination Learning of Children," by Charles C. Spiker of the State University of Iowa, discussed by Mr. Stevenson; "The Psychological Significance of Styles of Conceptualization," by Messrs. Kagan and Howard A. Moss of Fels Research Institute and Irving E. Sigel of Merrill-Palmer Institute, discussed by Riley W. Gardner of the Menninger Foundation; "Reasoning Processes in Children," by Jerome S. Bruner of Harvard University; "Mathematical Models in Research with Children," by Richard C. Atkinson of the University of California, Los Angeles, discussed by Michael W. Wallach of Massachusetts Institute of Technology. A summary of the proceedings was given by Mr. Kessen at the close of the conference. Other participants, in addition to Messrs. Brown, Romney, and Palmer, included Alfred L. Baldwin, Cornell University; Yvonne Brackbill, Johns Hopkins University; Susan M. Ervin, University of California, Berkeley; Colin Fraser, Massachusetts Institute of Technology; Wendell E. Jeffrey, University of California, Los Angeles; Harry Levin, Cornell University; and Eleanor Maccoby, Stanford University.

LINGUISTICS AND PSYCHOLOGY

Joseph H. Greenberg (chairman), John B. Carroll, Joseph B. Casagrande, Charles A. Ferguson, James J. Jenkins, Wallace E. Lambert; *staff*, Francis H. Palmer.

The committee sponsored a conference on research on language universals at Gould House, Dobbs Ferry, New York, on April 13-15. The chairman of the committee also served as chairman of the conference, for which papers were prepared and circulated in advance. The first session was chaired by Rulon S. Wells of Yale University and devoted to discussion of "The Problem of Universals in Language," by Charles F. Hockett, Cornell University, and of the "Memorandum Concerning Language Universals" originally prepared by Messrs. Greenberg, Jenkins, and Charles E. Osgood of the University of Illinois as a basis for planning the conference. The second session, chaired by C. F. Voegelin of Indiana University, dealt with phonological universals

and discussed the following papers: "Assumptions about Nasals: A Sampling Study in Phonological Universals," by Mr. Ferguson; "Phoneme Distribution and Language Universals," by Sol Saporta, University of Washington; and "Are There Universals of Linguistic Change?" by Henry M. Hoenigswald, University of Pennsylvania. The third session, on grammatical universals, was chaired by John Lotz of Columbia University and discussed "Some Universals of Grammar, with Particular Reference to the Order of Meaningful Elements," by Mr. Greenberg, and "A Search for Universals in Indo-European Diachronic Morphology," by Warren C. Cowgill of Yale University. The fourth session, on semantic universals, was chaired by Einar Haugen of the University of Wisconsin and considered papers bearing that title, by Uriel Weinreich of Columbia University and Stephen Ullman of the University of Leeds, England. The fifth session, chaired by Mr. Greenberg, was concerned with problems of sampling and discussed a paper on that subject by Floyd G. Lounsbury, Yale University, and "Suggested Procedures in the Organization of Cross-Linguistic Files," by George P. Murdock, University of Pittsburgh. The final session, also chaired by Mr. Greenberg, dealt with implications of language universals. Three papers were considered: on implications for anthropology, by Mr. Casagrande; on implications for psychology, by Mr. Osgood; and on implications for linguistics, by Roman Jakobson of Harvard University.

Other participants in the conference, in addition to members of the committee and staff, included Harold C. Conklin, Columbia University; Franklin S. Cooper, Haskins Laboratories; William J. Gedney and Herbert H. Paper, University of Michigan; Fred W. Householder, Jr., and Thomas A. Sebeok, Indiana University; Dell H. Hymes and Sydney M. Lamb, University of California, Berkeley; Eric H. Lenneberg, Children's Hospital Medical Center, Boston; Leigh Lisker, University of Pennsylvania. Adam Schaff of the University of Warsaw was a guest of the conference for part of the program. It is hoped that the papers of the conference can be published as a book.

PERSONNEL

RESEARCH TRAINING FELLOWSHIPS

The Committee on Social Science Personnel—Gardner Ackley (chairman), M. Margaret Ball, Wayne H. Holtzman, David M. Schneider, and Paul Webbink—at its meeting on March 27-28 voted a total of 51 awards, 8 postdoctoral and 43 predoctoral research training fellowships, of which 17 made provision for completion of doctoral dissertations. The complete list follows:

Gar Alperovitz, Ph.D. candidate in economics, Cambridge University, England, for research on the relations between income distribution, government expenditures, and the business cycle in the United States since World War II.

- John S. Ambler, Ph.D. candidate in political science, University of California, Berkeley, for research in France and Algeria on civilian control of the military.
- Michael M. Ames, Ph.D. candidate in social anthropology, Harvard University, and Social Science Research Council research training fellow 1958-60, for completion of a dissertation on the social and psychological functions of Sinhalese religion in the southern lowlands of Ceylon.
- Benedict R. Anderson, Ph.D. candidate in government, Cornell University, for research in Indonesia on the politics of the Indonesian revolution, 1945-48.
- John Andromedas, Ph.D. candidate in anthropology, Columbia University, and Social Science Research Council research training fellow 1960-61, for completion of a dissertation on the integration of the Maniat tribal group into modern Greece.
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- Bernard Beck, Ph.D. candidate in sociology, Princeton University, for research and completion of a dissertation on the conceptual structure of ritualized performances in societies in harsh environments.
- Nancy Bowers, Ph.D. candidate in anthropology, Columbia University, for an ethnographic study in Australian New Guinea of the agricultural system of a society in the Western Highlands.
- David Ross Brillinger, Ph.D. candidate in statistics, Princeton University, postdoctoral fellowship for research at the London School of Economics on applications of statistics in the social sciences.
- Seyom Brown, Ph.D. candidate in political science, University of Chicago, for research on models for a supranational military deterrent system.
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- Geoffrey P. E. Clarkson, Ph.D. candidate in mathematical economics, Carnegie Institute of Technology, postdoctoral fellowship for advanced training at Princeton University in formal logic and the foundations of scientific methodology.
- Richard A. Comfort, Ph.D. candidate in history, Princeton University, for completion of a dissertation on the politics of labor in Hamburg, Germany, 1919-25.
- Lynne S. Crumrine, Ph.D. candidate in anthropology, University of Arizona, for research in Northwest Mexico on social change and Mayo religious mechanisms for the release of tensions.
- Don E. Dumond, Ph.D. candidate in anthropology, University of Oregon, for research and completion of a dissertation on the development of subsistence patterns based on river and marine resources in prehistoric southwestern Alaska and the relationship of this development to similar patterns on the Northwest Coast.
- Robert R. Dykstra, Ph.D. candidate in history, State University of Iowa, for research and completion of a dissertation on the socioeconomic transition of the Kansas cattle-trading towns, 1867-89.
- Elizabeth Erickson, Ph.D. candidate in anthropology, Columbia University, for a comparative study in western Uganda of the development of two indigenous systems of law in East Africa under British colonial administration.
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- Paul Kay, Ph.D. candidate in social anthropology, Harvard University, for completion of a dissertation on the social structure of two Tahitian communities.
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- Edward L. McDill, Assistant Professor of Sociology, Vanderbilt University, postdoctoral fellowship for advanced training in the mathematical analysis of adolescent subcultures.
- James R. McDonald, Ph.D. candidate in geography, University of Illinois, for research in France on regional

definition with specific application to the eastern limit of Brittany.

Gary McDowell, Ph.D. candidate in economics, Columbia University, for research on drainage of the Southeast Missouri Lowlands: a case study in development by local government.

Dorothy L. Meier, Ph.D. candidate in sociology, University of California, Los Angeles, postdoctoral fellowship for advanced training in mathematics, social statistics, research design, and analysis.

Charles C. Moskos, Jr., Ph.D. candidate in sociology, University of California, Los Angeles, for research in Grenada on political processes and social change.

Murray G. Murphey, Assistant Professor of American Civilization, University of Pennsylvania, postdoctoral fellowship for advanced training in mathematical statistics and sampling.

Hugo G. Nutini, Ph.D. candidate in anthropology, University of California, Los Angeles, and Social Science Research Council research training fellow 1960-61, for research and completion of a dissertation on kinship in a Nahuatl-speaking village in the State of Tlaxcala, Mexico.

Melvin L. Perlman, D. Phil. candidate in social anthropology, Oxford University, for research and completion of a dissertation on marriage and the family in contemporary Uganda.

Robert Perrucci, Ph.D. candidate in sociology, Purdue University, for completion of a dissertation on the mental hospital as a social system.

Allan Pred, Ph.D. candidate in geography, University of Chicago, for completion of a dissertation on industrial revolution and changes in the external relations of Gothenburg, Sweden, 1868-90.

Jo Roberts, Ph.D. candidate in anthropology, Columbia University, for research in Sierra Leone on emigration and social change among the Limba.

David Rothman, Ph.D. candidate in history, Harvard University, for research on the history of the United States Senate, 1869-1909.

Granville H. Sewell, Ph.D. candidate in political science, Massachusetts Institute of Technology, for research in Turkey on the causes and characteristics of peasant migrations to the modern cities of Turkey and resultant changes in attitudes.

Carroll Smith, Ph.D. candidate in history, Columbia University, for research on the history of the city mission movement in the United States, 1827-67.

Frances Tanikawa, Ph.D. candidate in history, Radcliffe College, for research on the life and thought of William James in relation to American culture after the Civil War.

Stephan A. Thernstrom, Ph.D. candidate in history of American civilization, Harvard University, for completion of a dissertation on social mobility of manual laborers in a New England mill town, 1850-80.

Richard H. Tilly, Ph.D. candidate in economics, University of Wisconsin, for research in Germany on the role of private banks in its industrialization, 1815-70.

Harold W. Watts, Assistant Professor of Economics, Yale University, postdoctoral fellowship for advanced training

in Norway on techniques of cross-sectional econometric analysis.

Gordon L. Weil, Ph.D. candidate in public law and government, Columbia University, for research and completion of a dissertation in Strasbourg, France, and the United States on the European Convention for the Protection of Human Rights and Fundamental Freedoms, signed in 1950.

Gerald Weiss, Ph.D. candidate in anthropology, University of Michigan, and Social Science Research Council research training fellow 1960-61, for research and completion of a dissertation on the ethnography of the Campa of eastern Peru.

Labib Zuwiyya-Yamak, Ph.D. candidate in political science, University of Michigan, for research in Lebanon on the ideological foundations of the Syrian Social Nationalist Party.

FACULTY RESEARCH FELLOWSHIPS

The Committee on Faculty Research Fellowships—William H. Nicholls (chairman), John D. Lewis, Gardner Lindzey, Joseph J. Mathews, Richard P. McCormick, and John Useem—held the second of its two meetings scheduled for 1960-61 on March 13-14. It voted to award the following 22 fellowships:

Irma Adelman, Acting Assistant Professor of Economics, Stanford University, for an econometric study of the flow-of-funds accounts of the United States.

Ethel M. Albert, Associate Professor of Speech, University of California, Berkeley, for research in France on the effects of intensive culture contact on values: a study of Africans resident in Paris.

William Anderson, Emeritus Professor of Political Science, University of Minnesota, for research on the history, theory, and practice of the study of politics: Part I, history (to 1900 or about World War I); Part II, theory and practice (since about 1900).

James C. Davies, Professor of Political Science, California Institute of Technology, for theoretical analysis of the relations between basic mental processes (needs and perceptions) and political behavior.

Cora Du Bois, Professor of Anthropology, Harvard University, for research in India on change and stability in a pilgrimage town of India.

Robert H. Ferrell, Associate Professor of History, Indiana University, for research on American diplomacy during 1933-37.

Renée C. Fox, Assistant Professor of Sociology, Barnard College, for research in Europe on the effects of various social, cultural, and historical factors on clinical medical research and research careers in Belgium.

Edmund S. Glenn, Chief, Interpreting Branch, Department of State, for research on the use of logical models in the investigation of languages and cultures.

William J. Goode, Professor of Sociology, Columbia University, for completion of a propositional inventory of findings in research on the family.

Irving L. Janis, Professor of Psychology, Yale University, for research in England and Norway on decision making and attitude change.

Gerhard E. Lenski, Associate Professor of Sociology, University of Michigan, for research on a general theory of social stratification.

Leon F. Litwack, Assistant Professor of History, University of Wisconsin, for research on Jacksonian Democracy: political, economic, and social roots, 1815-28.

Edward Lurie, Assistant Professor of History, Wayne State University, for research on the transformations in American society and ideas during 1861-76.

Horace M. Miner, Professor of Anthropology and Sociology, University of Michigan, for analysis of field data on a Nigerian development project among the Hausa.

T. J. Oleson, Professor of History, University of Manitoba, for research in England, Scandinavia, and France on the life and times of Edward the Confessor.

Forrest R. Pitts, Assistant Professor of Geography, University of Oregon, for research in Japan and the United States on hand tractor ownership in Japan, and Monte Carlo simulation of hand tractor diffusion, 1920-60.

David Roberts, Assistant Professor of History, Dartmouth College, for research on the social conscience of the early Victorians.

William L. Sachse, Professor of History, University of Wisconsin, for research in England on the role played by London in the Revolution of 1688.

Neil Smelser, Associate Professor of Sociology and Social Institutions, University of California, Berkeley, for a comparative analysis of social movements in the developing nations.

Gerald G. Somers, Professor of Economics, University of Wisconsin, for an international comparison of the rates and patterns of labor mobility.

Harold Sprout, Professor of Geography and International Relations, Princeton University, and Margaret T. Sprout, for research in Europe on changing British attitudes concerning armaments, alliances, neutralism, and other related issues, and the significance of such attitudes for British defense and foreign policy.

David O. D. Wurfel, Assistant Professor of Political Science, International Christian University, Tokyo, for research in the Philippines on education, kin ties, geographic origins, and economic interests of the political elite and implications of these characteristics for national policy.

GRANTS-IN-AID

The Committee on Grants-in-Aid—Vincent H. Whitney (chairman), Paul Bohannon, James M. Buchanan, John Hope Franklin, William H. Riker, and Gordon Wright—held the second of its two meetings scheduled for 1960-61 on March 20-21. The following 19 awards were made:

E. Digby Baltzell, Jr., Associate Professor of Sociology, University of Pennsylvania, for research on the contrasting approaches of Karl Marx and Alexis de Tocqueville to the idea of equality.

Andreas Dorpalen, Professor of History, Ohio State University, for research in Germany and the Netherlands on von Hindenburg and the Weimar Republic.

Arnold S. Feldman, Associate Professor of Sociology, University of Delaware, for research on the dynamics of industrial societies.

Jack D. Forbes, Assistant Professor of History, San Fernando Valley State College, for research on the effects of European contacts on the Chumash Indians of California.

Franz Gehrels, Associate Professor of Economics, Indiana University, for an examination of growth of a multi-sector open economy in response to changes in basic resources and technology.

John W. Gyr, Associate Research Psychologist, Mental Health Research Institute, University of Michigan, for research on the simulation of cognitive processes on a computer.

Hans Heilbronner, Associate Professor of History, University of New Hampshire, for research in Austria, Germany, and Russia on the impact of Russian revolutionary movements on foreign policy and public opinion in Germany and Austria, 1871-1914.

John A. Hostetler, Assistant Professor of Sociology, University of Alberta, for research in the province of Alberta on maintenance and assimilation patterns among the Hutterian Brethren.

Andrew C. Janos, Research Assistant, Center of International Studies, Princeton University, for research in Austria and Germany on social modernization in Hungary, 1867-1939.

Hoh-cheung Mui, Associate Professor of History, Wilkes College, for research in the United States on the trade and consumption of tea in Great Britain, 1784-1834.

Edward Norbeck, Associate Professor of Anthropology, Rice University, for research on institutionalized rites violating social norms among Africans and North American Indians.

Stanley G. Payne, Instructor in History, University of Minnesota, for research in Spain on the political history of the Spanish Civil War, 1936-39.

Stanley A. Pierson, Assistant Professor of History, University of Oregon, for research in the United States on socialism, ethics, and religion in Great Britain, 1885-1911.

Julius W. Pratt, Visiting Professor of History, Wells College, and Emeritus Professor of History and Government, University of Buffalo, for research on Cordell Hull as Secretary of State, 1933-44.

Morton Rubin, Assistant Professor of Sociology, Northeastern University, for research on leadership in a Negro working-class neighborhood on the threshold of urban renewal.

Frederick J. Simoons, Associate Professor of Geography, University of Wisconsin, for research on the spread of dairying in the Old World.

Bernard A. Weisberger, Associate Professor of History, University of Chicago, for research on the first trans-continental railroad, with reference to nationalism, capitalism, and technology.

Frank R. Westie, Associate Professor of Sociology, Indiana University, for research on the development of in-group and out-group consciousness and self-awareness in children and young adults.

Benjamin D. Wright, Assistant Professor of Education, University of Chicago, for an empirical investigation of a statistical model in factor analysis.

SENIOR AWARDS FOR RESEARCH ON GOVERNMENTAL AFFAIRS

The Committee on Grants for Research on Governmental Affairs—Robert E. Cushman (chairman), Alexander Heard, Dean E. McHenry, Elmer B. Staats, and Benjamin F. Wright—met on April 26. It made the following 5 senior awards for research in 1961–62:

Earl Latham, Professor of Political Science, Amherst College, for research on the communist issue in American politics.

Harvey Mansfield, Professor of Political Science, Ohio State University, for research on interagency relationships and the coordination of monetary, credit, and fiscal policies.

Malcolm Moos, Professor of Political Science, Johns Hopkins University, for research on the office of the Presidency.

Austin Ranney, Professor of Political Science, University of Illinois, for a comparative study of factors affecting party cohesion in Great Britain and the United States, with particular attention to the relations between central and local party organizations in the nominating process.

York Willbern, Professor of Government, Indiana University, for research on the factors influencing innovation in governmental programs in the Indianapolis and Louisville metropolitan communities.

POLITICAL THEORY AND LEGAL PHILOSOPHY FELLOWSHIPS

The Committee on Political Theory and Legal Philosophy Fellowships—J. Roland Pennock (chairman), Guy H. Dodge, David Easton, Jerome Hall, Thomas P. Jenkin, and Robert G. McCloskey—at its meeting on March 17 awarded 3 fellowships:

David Kettler, Assistant Professor of Political Science, Ohio State University, for study in Germany of the life and works of Karl Mannheim.

Jacques Kornberg, Ph.D. candidate in history, Harvard University, for research on the concepts and methods developed by Wilhelm Dilthey (1833–1911) for empirical study of the history of ideas.

Ronald H. McDonald, Ph.D. candidate in political science, University of California, Los Angeles, for research on ideologies in stable political systems.

GRANTS FOR RESEARCH ON NATIONAL SECURITY POLICY

The Committee on National Security Policy Research—William T. R. Fox (chairman), Morris Janowitz, Klaus Knorr, G. A. Lincoln, John W. Masland, Robert E. Osgood, and Arthur Smithies—since publication of the March issue of *Items* has awarded 3 additional grants for research in its field:

Jahangir Amuzegar, Associate Professor of Economics, Occidental College, for research on defense expendi-

tures and the southern California economy, a joint project with

Joseph E. Haring, Assistant Professor of Economics, Occidental College.

Franklyn A. Johnson, President, and Professor of Government, Jacksonville University, for research in England and France on the backgrounds, attitudes, and methods of British political-military decision makers, 1935–60.

GRANTS FOR ASIAN STUDIES

The Joint Committee on Asian Studies, of the American Council of Learned Societies and the Social Science Research Council—John A. Pope (chairman), Fred Eggan, Earl H. Pritchard, Rodger Swearingen, and Robert E. Ward, with Horace I. Poleman acting for W. Norman Brown, who was out of the country—met on February 18–19. It has made the following 18 grants for research during 1961–62:

Jan O. M. Broek, Professor of Geography, University of Minnesota, for research in England, France, and the Netherlands on the map image of the Malay Archipelago in the sixteenth to eighteenth centuries.

Chester S. Chard, Associate Professor of Anthropology, University of Wisconsin, for research on the interrelationships of prehistoric cultural development in Soviet Asia and adjacent East Asia.

John DeFrancis, Associate Professor of Mathematics, Quinnipiac College, for study of current developments in Chinese mathematics and its history (renewal).

Robert G. Flershem, Public Affairs Officer, United States Information Agency, for a study of Tomura: rural officials of Kaga Clan in the Tokugawa period.

Roy E. Jumper, Associate Professor of Political Science, Wake Forest College, for preparation of an annotated bibliography of the administrative, political, and social history of Viet Nam, 1802–1954.

Donald F. Lach, Professor of History, University of Chicago, for research on the impact of Asia on Europe, 1500–1800.

William W. Lockwood, Professor of Public and International Affairs, Princeton University, for research in Japan and India on the politics of industrialization in Asia: interactions between the process of economic development and the democratization of political institutions.

Douglas H. Mendel, Jr., Assistant Professor of Political Science, University of California, Los Angeles, for research in Japan, South Korea, Okinawa, and Taiwan, on the Japanese response to the new Japanese-American Security Treaty of 1960.

Norman D. Palmer, Professor of Political Science, University of Pennsylvania, for research in India and Pakistan on South Asia in world affairs.

Hugh T. Patrick, Assistant Professor of Economics, Yale University, for research in Japan on the role of direct investment by government and its financing of private investment in the economic development of postwar Japan.

Udo Posch, Research Associate, Department of Far Eastern and Slavic Languages and Literature, University of Washington, for research in Outer Mongolia on the

social structure of the Western Mongols (Oirats), including linguistic phenomena.

Robert K. Sakai, Associate Professor of History, University of Nebraska, for research in Japan and the United States on the origins of the Satsuma Rebellion of 1877.

Henry Serruys, Beallsville, Maryland, for research on tribute, trade, and diplomatic relations between the Mongols and the Ming, c. 1400-1600.

Burton Stein, Assistant Professor of History, University of Minnesota, for research in India and London on economic regionalization and growth in medieval South India.

E-tu Zen Sun, Visiting Research Associate, Mineral Economics, Pennsylvania State University, for research on the pattern of development of mineral resources in pre-modern and modern China, and its relation to the Chinese economy (renewal).

Arthur E. Tiedemann, Assistant Professor of History, The City College, New York, for research in Japan on Japanese political history of the Taisho and early Showa periods, with particular attention to parliamentary institutions and thought.

David A. Wilson, Assistant Professor of Political Science, University of California, Los Angeles, for a study of Westernization in Thailand.

Stanley A. Wolpert, Assistant Professor of History, University of California, Los Angeles, for research in London on the Morley era of Indian history, 1906-10.

GRANTS FOR RESEARCH ON THE NEAR AND MIDDLE EAST

The Joint Committee on the Near and Middle East, of the American Council of Learned Societies and the Social Science Research Council—T. Cuyler Young (chairman), Dankwart A. Rustow (secretary), Hamilton A. R. Gibb, Majid Khadduri, William D. Schorger, Wilfred C. Smith, G. E. von Grunbaum, and John A. Wilson—in addition to the 8 grants listed in the March issue of *Items* (page 9), has made the following award:

Zekiye Eglar, Research Fellow, Center for Middle Eastern Studies, Harvard University, for study in Pakistan of change in its village communities.

In the previously published list of awards, John Gulick, Associate Professor of Anthropology, University of North Carolina, was erroneously designated as Assistant Professor.

INTERNATIONAL CONFERENCE TRAVEL GRANTS

In addition to the awards listed in *Items*, March 1961 (pages 10-11), the following grants have been made by the Committee on International Conference Travel Grants and the Executive Committee of the Council for attendance at the international meetings indicated:

International Statistical Institute, Paris, August 28-September 7

William G. Cochran, Professor of Statistics, Harvard University

World Congress of the International Political Science Association, Paris, September 26-30

Morton Grodzins, Professor of Political Science, University of Chicago

Other International Meetings

W. W. Cooper, Professor of Economics and Industrial Administration, Carnegie Institute of Technology; International Meeting of the Institute of Management Sciences, Brussels, August 23-26

Charles Y. Glock, Director, Survey Research Center, University of California, Berkeley; Conference on the Sociology of Religion, Nuffield College, Oxford University, March 24-27

William J. Goode, Professor of Sociology, Columbia University; International Seminar on Family Research, Dubrovnik, Yugoslavia, September 16-30

Albert G. Hart, Professor of Economics, Columbia University; International Contact on Business Tendency Surveys [CIRET] Conference, Noordwijk, the Netherlands, May 23-24

Finn B. Jensen, Professor of Economics, Lehigh University; Meeting of the Economic Associations of Denmark, Finland, Norway, and Sweden, Oslo, June 15-17

Frederick J. Simoons, Associate Professor of Geography, University of Wisconsin; International Conference on African History and Archaeology, London, July 4-7

Gerhard Tintner, Professor of Economics, Mathematics and Statistics, Iowa State University; International Meeting of the Institute of Management Sciences, Brussels, August 23-26

J. Fred Weston, Professor of Business Economics and Finance, University of California, Los Angeles; International Meeting of the Institute of Management Sciences, Brussels, August 23-26

PUBLICATIONS

COUNCIL PUBLICATIONS

Labor Commitment and Social Change in Developing Areas, edited by Wilbert E. Moore and Arnold S. Feldman. Sponsored by the Committee on Economic Growth. December 1960. 393 pages. Cloth, \$3.75.

Theoretical Studies in Social Organization of the Prison, Pamphlet 15, by Richard A. Cloward, Donald R. Cressey, George H. Grosser, Richard McCleery, Lloyd E.

Ohlin, and Gresham M. Sykes and Sheldon L. Mesinger. Papers prepared by members of a Conference Group on Correctional Organization, sponsored by the Council in 1956-57. March 1960. 152 pages. \$1.50.

The State and Economic Growth: Papers of a Conference Held on October 11-13, 1956, under the Auspices of the Committee on Economic Growth, edited by Hugh G. J. Aitken. May 1959. 399 pages. Cloth, \$3.75.

Effects of Social and Cultural Systems in Reactions to Stress, Pamphlet 14, by William Caudill. June 1958. 39 pages. 50 cents.

Social Status and Public Health, Pamphlet 13, by Ozzie G. Simmons. May 1958. 39 pages. 50 cents.

Problems in Intercultural Health Programs, Pamphlet 12, by George M. Foster. April 1958. 54 pages. 50 cents.

Special price for Pamphlets 12-14 together, \$1.00.

The publications of the Council are distributed from its office, 230 Park Avenue, New York 17, N. Y.

OTHER BOOKS

Historical Statistics of the United States, Colonial Times to 1957. Prepared by the Bureau of the Census, with the assistance of the former Advisory Committee on Historical Statistics. Washington, D. C.: Government Printing Office, August 1960. 800 pages. Cloth, \$6.00.

Household Decision-Making, edited by Nelson N. Foote. Product of a conference held on September 4-6, 1958, sponsored jointly by the former Committee on the Family and Economic Behavior and Consumer Behavior, Inc. New York: New York University Press, April 1961. 362 pages. Cloth, \$6.50.

CROSS-CULTURAL EDUCATION MONOGRAPHS

These monographs, sponsored by the former Committee on Cross-Cultural Education, are published by the University of Minnesota Press, Minneapolis:

Scandinavian Students on an American Campus, by William H. Sewell and Oluf M. Davidsen. February 1961. 145 pages. Cloth, \$3.50.

The Two-Way Mirror: National Status in Foreign Students' Adjustment, by Richard T. Morris. July 1960. 229 pages. Cloth, \$4.50.

In Search of Identity: The Japanese Overseas Scholar in America and Japan, by John W. Bennett, Herbert Passin, and Robert K. McKnight. December 1958. 381 pages. Cloth, \$7.50.

No Frontier to Learning: The Mexican Student in the United States, by Ralph L. Beals and Norman D. Humphrey. August 1957. 159 pages. Cloth, \$3.25.

Indian Students on an American Campus, by Richard D. Lambert and Marvin Bressler. December 1956. 133 pages. Cloth, \$3.00.

The American Experience of Swedish Students, by Franklin D. Scott. June 1956. 142 pages. Cloth, \$3.00.

ANNOUNCEMENT

FULBRIGHT GRANTS FOR ADVANCED RESEARCH AND UNIVERSITY LECTURING IN EUROPE, THE NEAR AND MIDDLE EAST, AND THE FAR EAST

Early in June the Committee on International Exchange of Persons, of the Conference Board of Associated Research Councils, will issue an announcement of United States Government grants available under the Fulbright Act to American scholars for advanced research and university lecturing during the academic year 1962-63 in Europe, the United Kingdom and certain overseas territories, the Near and Middle East, and the Far East. Grants for 1962-63 are offered in the following countries:

Europe: Austria, Belgium and Luxembourg, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden
United Kingdom and Overseas Territories: Africa, Hong Kong, Malta, Singapore

Near and Middle East: Iran, Israel, Turkey, the United Arab Republic

Far East: China (Taiwan), Japan, Korea

The closing date for submission of applications will be October 1, 1961.

The criteria of eligibility are: United States citizenship; for lecturing, at least one year of college or university teaching experience; for research, a doctoral degree or recognized professional standing; in some cases, a knowledge of the language of the host country.

The terms of award are as follows: Awards are tenable in one country, usually for a full academic year, and payable in the currency of the host country. They provide round-trip travel for the grantee, and for lecturers going to certain countries of Asia and Africa the round-trip travel of one dependent; a maintenance allowance to cover ordinary living costs of the grantee and his family while in residence abroad; a small incidental allowance for internal travel, books, and services essential to the assignment; for lecturers in specific countries of Asia and Africa a supplemental dollar grant.

Detailed information and application forms may be obtained from the Conference Board of Associated Research Councils, Committee on International Exchange of Persons, 2101 Constitution Avenue, N.W., Washington 25, D. C.

SOCIAL SCIENCE RESEARCH COUNCIL

230 PARK AVENUE, NEW YORK 17, N. Y.

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